

**REMARKS**

Applicants respectfully request reconsideration of this application, as amended.

Claims 1, 2, 7 and 10 were objected to as containing undefined acronyms. These claims have been amended to include the full name associated with the "TTI" and "SRNC" acronyms, as defined by the Specification, at Page 10 (lines 15–16) and Page 11 (lines 9–10).

Claims 1–11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lundsjö (US 6,473,442) in view of Furuskar (US 6,704,898, newly-cited) and in further view of Morelos-Zaragoza (US 6,101,626, newly-cited). Applicants respectfully traverse.

Claim 1 is directed to a data transmitting method, while Claim 10 is directed to a base station including a physical layer for data transmission. Lundsjö discloses a mobile communications system that balances and "rate matches" different types of services used simultaneously by a mobile terminal. *See*, generally, FIGS. 2 and 3; Col. 1, line 66 to Col. 2, line 8; etc. Lundsjö fails to teach or suggest many features recited by Claims 1 and 10, as acknowledged by the Office Action.<sup>1</sup>

Furuskar discloses a combined (i.e., Type I and Type II) Hybrid ARQ scheme that transmits blocks from a wireless transmitter to a wireless receiver using different coding schemes without the need to inform the transmitter whether the receiver is using Type I or Type II Hybrid ARQ. *See*, e.g., Abstract; Col. 3:28–34; Col. 4:32–36. Furuskar teaches that a block is first transmitted from the transmitter to the receiver using a first coding scheme (step 322), and, if an ACK signal is not received (step 324), then the same block is retransmitted to the receiver using a second coding scheme (step 326) -- a process that is repeated, in a predetermined order, for "n" predetermined coding schemes stored in the transmitter. *See*, e.g., Col. 4:59 to Col. 5:10. Further, Furuskar's coding schemes are optimized to have substantially the same probability of decoding by a receiver employing either a Type I or a Type II Hybrid ARQ scheme. *See*, e.g., Col. 5:23–25; Col. 6:14–17; generally, Col. 5:22 to Col. 6:18. Applicants respectfully submit that Furuskar fails to teach or suggest several features recited by Claims 1 and 10, including those that are missing from Lundsjö.

Furuskar fails to teach or suggest receiving transport blocks (TBs) and their RLC sequence numbers (SNs) from the MAC layer through the wired interface, and keeping the

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<sup>1</sup> *See*, Office Action at Page 3 (Paragraph 5) and Page 5 (Paragraph 16), respectively.

received TBs and their RLC SNs stored for a predetermined time after discarding one or more TBs whose RLC SN is overlapped with pre-stored TBs, as recited by Claim 1. Similarly, Furuskar fails to teach or suggest a buffer storing transport blocks (TBs) received from the MAC layer through the wired interface, a controller discarding a TB stored in said buffer or controlling retransmission of the TB based on whether or not the TB is acknowledged from a remote counterpart, as recited by Claim 10. Instead, Furuskar merely discloses "a system for communicating blocks of information to and from a transmitter and a receiver" (Col. 3:35–36), and fails to disclose the mechanism by which his transmitter exchanges information with higher network layers, such as the MAC layer. Applicant notes that Furuskar's technique for receiving and decoding blocks using a Type II Hybrid ARQ receiver is, of course, irrelevant to the claimed data transmitting method (Claim 1) and the claimed base station physical layer in charge of data transmission (Claim 10).<sup>2</sup>

Furuskar also fails to teach or suggest adjusting a puncturing rate based on information on notifying acknowledgement, received from a remote counterpart, for previously-transmitted TBs, and applying the adjusted puncturing rate to the stored TBs in the middle of a preparing process for transmitting the TBs through a physical channel actually, as recited by Claim 1. Similarly, Furuskar also fails to teach or suggest a controller determining a puncturing rate of a TB based on acknowledged information from the remote counterpart, as recited by Claim 10. Rather, Furuskar teaches that a first block, punctured with P1, is transmitted to the receiver and if decoding is unsuccessful, a second block, punctured with P2, is transmitted, and so forth. Importantly, Furuskar's predetermined coding schemes are applied to the block in a predetermined order, e.g., P1, P2, P3, P1, P2, P3, etc. *See*, e.g., Col. 6:45–57; Col. 7:19–22,45–58. Consequently, Applicants submit that Furuskar does not adjust or determine a puncturing rate based on the ACK or NACK from the receiver, as recited by Claims 1 and 10, but merely applies a predetermined coding scheme to the block in a predetermined order. Furthermore, Furuskar simply fails to specify that his blocks are punctured in the middle of the transmission preparation process, as recited by Claim 1.

Morelos-Zaragoza discloses a method for choosing coding schemes, mappings and puncturing rates for a modulation/demodulation system. *See*, e.g., Abstract. Applicants respectfully submit that Morelos-Zaragoza fails to teach or suggest several features recited by

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<sup>2</sup> *See*, Office Action at Page 3 (Paragraph 6) and Page 5 (Paragraph 17), suggesting that Furuskar discloses these features within his receiver in FIG. 5B and Col. 7:22 to Col. 8:37.

Claims 1 and 10, including those that are missing from both Lundsjö and Furuskar. While Morelos-Zaragoza teaches that a coding scheme and puncturing rate may be determined so the system is invariant to the transformation T (e.g., Col. 4:42-65), Morelos-Zaragoza simply fails to teach or suggest adjusting a puncturing rate based on information on notifying acknowledgement, received from a remote counterpart, for previously-transmitted TBs, and applying the adjusted puncturing rate to the stored TBs in the middle of a preparing process for transmitting the TBs through a physical channel actually, as recited by Claim 1. Similarly, Morelos-Zaragoza also fails to teach or suggest a controller determining a puncturing rate of a TB based on acknowledged information from the remote counterpart, as recited by Claim 10.

Consequently, neither Lundsjö, Furuskar nor Morelos-Zaragoza, taken either singly or in combination, teaches or suggests all of the features recited by Claims 1 and 10. Accordingly, Claims 1 and 10 are allowable. Claims 2-9, depending from Claim 1, and Claim 11, depending from Claim 10, are also allowable, at least for the reasons discussed above.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance and should now be passed to issue.

A Notice of Allowance is respectfully solicited. If any extension of time is required in connection with the filing of this paper and has not been requested separately, such extension is hereby requested.

The Commissioner is hereby authorized to charge any fees and to credit any overpayments that may be required by this paper under 37 C.F.R. §§ 1.16 and 1.17 to Deposit Account No. 02-2135.

Respectfully submitted,

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